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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,250	12/20/2000	Carl Werner	00-167-C	8064
20306	7590	05/05/2005	EXAMINER	
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP			NGUYEN, LINH V	
300 S. WACKER DRIVE			ART UNIT	
32ND FLOOR			PAPER NUMBER	
CHICAGO, IL 60606			2819	

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/742,250

Applicant(s)

WERNER ET AL.

Examiner

Linh V. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-14 is/are allowed.
- 6) ☒ Claim(s) 1-10 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 16-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/22/05</u> , <u>IDS prior</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to applicant's communication filed on 3/28/05.

Claims 1 – 14, 16 – 23 are pending on this office action.

Claim Objections

2. Claim 16 - 20 are objected to, because there is no such claim 15 for claim 16 to depend on, and no antecedent basis for the wording, "step of calibrating the output driver". There is not reference to "step of calibrating the output driver"" earlier in the claim either in the form of an implied as well as a literal description from which an earlier antecedent reference may be made. Although, the disclosure does make reference to calibrating the output driver, there is no clear recitation in these claims to avoid possible confusion as to what is actually claimed. The claims fail to particularly point out and distinctly claim the subject matter that the applicant considers to be the invention here. Accordingly, the claims 16 – 20 are not been further treated on the merits.

Clarification is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 – 4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by King et al. U.S. Patent No. 5,812,572.

Regarding claim 1, Fig. 1 of King et al. discloses a method for improving resolution of a current driver (36 laser diode is a current driver), where the current mode driver is operable to provide an output that falls within a predetermined range (Fig. 2), the method comprising the steps of: sensing at least one of a process condition, a voltage condition and a temperature condition (Power Monitor, Temperature sensor, Current Monitor, Power supply monitor) with a PVT detector (50); adjusting a full scale current of a DAC (24) in accordance with an output of the PVT detector (Col. 14 lines 6 – 7) ; and setting a current control signal (Imod 34) based on an output of the DAC (Col. 7 lines 19 – 22), the current control signal (Imod) being applied to the current mode driver (36) to improve resolution of the current mode driver (Col. 5 lines 11 – 15).

Regarding claim 2, wherein the step of adjusting the full-scale current comprises the steps of: generating an adjustment signal (output of 24) in response to the sensing steps (Power Monitor, Temperature sensor, Current Monitor, Power supply monitor); and applying the adjustment signal to the current mode driver (36), the adjustment signal causing the current mode driver (36) to adjust the full scale current (24).

Regarding claim 3, wherein the step of applying the adjustment signal to the current mode driver (36) comprises applying at least one predetermined voltage (Voltage applying to 20) to a corresponding at least one transistor switch (20).

Regarding claim 4, the current control signal comprises a plurality of bits (See Fig. 3 for disclosing multiple bits (85), controlling of current mode driver laser diode, therefore the Imod control current signal comprises multiple bits).

Regarding claim 7, wherein the sensing steps comprises: applying a PVT independent current (Modulation Current Monitor) to a PVT sensitive load (50); and detecting a voltage drop across the PVT load (Power Supply Monitor).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al. as applied to claim 1 above, in view of Gillig U.S. patent No. 5,604,468.

King et al. as applied to claim 1 above, discloses the sensing step (Power Monitor, Temperature sensor, Current Monitor, Power supply monitor) in a lock-loop condition. However King et al. does not explicitly disclose the lock-loop is either a delay lock loop or phase lock loop.

Fig. 5 Gillig teaches a temperature-sensing system comprises determining a condition associated with a phase-locked loop or a delayed-locked loop (Col. 4 line 62 - Col. 5 line 10).

King et al. Gillig are common subject matter of sensing circuit. Therefore, it would

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have been obvious to one having ordinary skill in the art at the time the invention was made to apply the locked-loop circuit taught by Gillig's sensing-circuit to the sensing-circuit of King et al. for the purpose of providing accurate, linear and repeatable temperature compensation with more simplified circuitry (Gillig' s Col. 2 lines 1 - 4).

7. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al. as applied to claim 1 above.

Regarding claim s 9 and 10, King et al. as applied to claim 1 above, does not explicitly disclose the sensitive parameter (Temperature sensor, Power supply monitor, Average power monitor, Modulation current monitor) is either in the form of AC or DC parameter. It would have been obvious to one in the art at the time the invention was made to implement the sensitive elements in a electrical circuit either in the form AC or DC parameter, because in every electrical system, the process parameters of every electrical system must be either in the form of AC or DC.

8. Claims 21 - 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al. as applied to claim 1 above, in view of Bellaouar et al. U.S. Patent No. 6,308,049.

Regarding claim 21, King et al. as applied to claim 1 above, does not explicitly disclose the current mode driver is a multi- pulse amplitude modulation.

Fig. 5 of Bellaouar et al. discloses a current mode driver (10) is a multi-pulse amplitude modulation (PAM, See Col. 5 lines 23 – 26).

King et al. and Bellaouar et al. are common subject matter for current driver. Therefore it would have been obvious to one ordinary skill in the art at the time the

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invention was made to incorporated the pulse amplitude modulation current driver taught by Bellaouare et al. in to the current driver of King et al. for the purpose of providing amplitude controlling of the current driver.

9. Regarding claims 22 and 23, King et al. combined with Bellaouar et al. as applied to claim 21 above, teaches a current adjusting process, but does not explicitly discloses the adjusting current is occur either during power up or after power up. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the adjusting current process is occur either during power up or after power up, since the adjusting current of King et al. is require to have power to implement the adjusting current process, therefore the adjusting current of King et al. must be either occur during power up or after the power up.

Allowable Subject Matter

10. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not teach or suggest applying a pulse in parallel to a delay line and a first plurality of latches, wherein the delay lines comprises a second plurality of delay stages; coupling an output of a subset of the plurality of delays stages to an input of a corresponding latch.

11. Claims 11 - 14 are allowed.

The following is an examiner's statement of reasons for allowance:

With respect to claim 11, in addition to other elements in the claim, the prior art does not teach or suggest a current output driver having: applying the current control signal to cause the output driver to sink a second current; wherein the second current is less than the full scale current; and applying a second current adjustment signal to alter the second current of the output driver; and calibrating the altered full scale current of the output driver and the altered second current of the output driver by comparing the altered full scale current with a first reference and comparing the altered second current with a second reference.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Contact Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (571) 272-1810. The examiner can normally be reached from 8:30 – 5:00 Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Tokar can be reached at (571) 272-1812. The fax phone numbers for the organization where this application or proceeding is assigned are (703-872-9306) for regular communications and (703-872-9306) for After Final communications.

4/26/05

Linh Van Nguyen

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A handwritten signature in black ink, appearing to read 'Linh Van Nguyen', written in a cursive style.